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latter end of which, the Portuguese found, to their great danger and annoyance, 15,000 Arabs settled at Calicut. When, therefore, these circumstances are taken into consideration; when we view the vast extent of the Arab settlements, and the diffusion of their language and religion to the eastward; when we regard their history as we find it preserved in the earliest records, and look at the people as we see them at this day, a restless and reckless nation of adventurers; and lastly, when we consider the peculiar institution of caste among the Hindoos, in which there is no caste of sailors or navigators;\* we are bound to subscribe to the opinion of Chardin, Robertson, Vincent, and others, that the Arabs, and not the Indians, were in ancient times the great carriers of the Indian trade, and the first navigators of the Indian seas.

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X.—*On Central America.* By Colonel Don Juan Galindo, Corresponding Member, Royal Geographical Society, London. Read 9th May, 1836.

[THERE are few parts of the habitable globe, accessible to our ships and our commerce, with which we are still so little acquainted as with the interior, as well as the shores, of Central America. It is the more singular, as this extensive isthmus offers a coast-line of upwards of a thousand miles to the Atlantic, and to the southward presents an equal extent bathed by the waters of the Pacific Ocean. Various causes, which need not be here stated, have combined to produce this ignorance of a country, whose geographical position is so highly advantageous: the works of Father Gage, in 1632, and of Don Domingo Juarro, native of Guatemala, in 1780 †, although containing much that is important, are very meagre and unsatisfactory, whether we look for geographical, statistical, or commercial details.‡ ‘Thompson’s Visit to Guatemala, in 1825§,’ by far the best work on this country, is our surest guide; but he only actually visited the city of Guatemala, and ‘Roberts’s Narrative’ is too diffuse and general for our purpose.

Yet it is possible, at no very distant period, that this country, hitherto so little known, may become the ‘highway of nations’—that the grand oceanic canal, which would cause a revolution in

\* Most of these opinions are very unrestricted and decided. Thus Vincent, *Perip.* 435,—“And to conclude that if the precious commodities of the East found their way to the Mediterranean, as undoubtedly they did, the first carriers on the ocean were, as undoubtedly, the Arabs.” So Sir John Chardin,—“For the Arabians, the first navigators in the world, in my opinion, at least for the eastern seas,” &c.

† Translated by Lieut. J. Baily, R.M., London, 1823, now resident in Salvador.

‡ In J. Haefkens’ ‘*Reise naar Guatamala*,’ in 1829, and in his later work on Central America, published in 1832, will be found some useful information.

§ London, 1829.

the commercial world, may be undertaken, connecting the Atlantic with the Pacific, through the Lake of Nicaragua; and it would be an important service rendered to geography, would any person endeavour to ascertain the levels on this line of road, and the physical obstacles it would be necessary to overcome, to form a water communication. It is believed some such survey has been set on foot by the government, or by a company, of the United States: in the mean time, the only observations we have are from a Spanish MS. existing in the archives at Guatemala, and copied by Mr. Thompson, which states that the engineer Don Manuel Galisteo executed a survey, in 1781, by means of a water level, from the gulf of Papagayo in the Pacific, as far as the Lake of Nicaragua; and that, by 347 levels, at about one hundred yards apart, the surface of the lake was found to be elevated 133·11½ feet above the sea; but the lake is said to be fifteen fathoms deep, so that its bottom is still forty-six Spanish feet\* above the level of the South Sea. The distance between the lake and the sea, at the proposed communication, is, by this measurement, only 29,880 English yards, or fifteen geographical miles nearly, and the greatest actual height of any part of the land is nineteen feet above the level of the lake: thus we are assured of a grand natural reservoir of water, at a sufficient elevation; but the practicability of a communication with the Pacific, either by this line or through the Lake of Leon; or with the Atlantic by the Rio San Juan, or some great transversal valley, is not yet ascertained with any certainty. The coast line of this country has hitherto been very imperfectly laid down on our maps; but the recent survey, by Captain Owen, R.N., now in progress, will doubtless remedy this for the northern coast. Commencing at Cape Catoche, the north-east point of Yucatan, the survey has been continued down the coast of Honduras, and along the Poyais shore to Cape Gracias a Dios, thence to the southward, along the Mosquito shore, as far as the mouth of the Rio San Juan. So far is correctly ascertained: an interval of 250 miles occurs between this point and Porto-Bello, which the Spanish surveys have come down to from the eastward. For the coast-line towards the Pacific we have no recent surveys; and there is little doubt that the greater part of it is incorrectly laid down; but the survey of Captain Beechey, R.N., now in progress on the coast of Peru, will, ere long, it is expected, reach this shore also. The outline of the country correctly obtained, we hope gradually to fill up the interior by observations of enlightened natives and travellers; and the description of Costarrica, by Colonel Galindo, our zealous corresponding member, annexed to this paper, the result of many years' travels and inquiries, is the first of a series of the different

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\* 1 Castille foot equals 0·9267 of an English foot.

states composing the federation, which he has kindly promised, on his return to his country, successively to transmit to the Geographical Society.—ED.]

AMERICA may naturally be divided into four grand portions: North America, Central America, South America, and the West Indies.

CENTRAL AMERICA comprehends the five states of Costarrica, Nicaragua, Honduras, Salvador, and Guatemala, united in one federation, and whose seat of government is at the city of San Salvador, within the federal district; it also includes the territories of the Mosquito men and their subordinate tribes of Indians.

This country is bounded on the north by Mexico and the bay of Honduras, on the east by the Caribbean sea and Veragua, and on the west and south by the Pacific ocean.

The principal points of the boundary towards Mexico are the ruins of Palenque,\* the river Nojbegan in latitude  $19^{\circ}$  north, and the Rio Hondo. Towards New Granada the river Escudo of Veragua, which falls into the Caribbean sea, and the river Boruca, which runs to the Pacific.

The most noted of the Central American islands are those on the eastern coast of the state of Guatemala, besides Ruatan, la Guanaja, and Utila in the bay of Honduras; the archipelago of Chiriqui in the Caribbean sea; Cocos and the islands of the bay of Conchagua on the South.

By a glance at a map of Central America, it is perceived to be an extended strip of land stretching from the north-west to the south-east, separating the waters of the Atlantic from the Pacific, and connecting the two vast continents of North and South America. The natural limits of this portion of the earth are certainly the narrowest part of the isthmus of Panamá on the one hand, and the isthmus of Tehuantepec on the other, but I confine myself to its political boundaries.

That elevated range, forming the spine of the whole continent, styled in South America the Andes, and in the United States the Stony Mountains, may be traced throughout Central America, though at a minor elevation than in the two adjoining continents, dividing this country into two grand portions; the waters on the north of the ridge falling into those of the Atlantic, and the sources on the south running into the Pacific. In proportion to the breadth of the territory of the federation, this spinal range approaches to the Atlantic and recedes from the Pacific in Central America to a greater degree than in any other part

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\* More correctly speaking the ruins of the nameless city or cities, near the village of Palenque. Palenque is simply a Spanish term signifying, palisade or wooden enclosure.—ED.

of its course from Cape Horn to the Arctic ocean;\* yet, even here, in no point is the ridge nearer the northern than the southern shores of the continent, and the slope from the summit of the mountains to the sea is consequently more abrupt towards the Pacific than to the Atlantic.

The same elevated range which in Central America has no determined name, and is even in many parts without a visible existence, commences in Costarrica at a distance from the Pacific of about one-fourth of the whole breadth of the isthmus, and at the beginning of its course separates this state from Veragua; in Nicaragua it inclines close to the borders of the Pacific, leaving the lakes on the east; in Honduras it returns towards the Atlantic, and, with Danli and Sedros on its summit, it leaves Comayagua on the north, with Tegusigalpa and the whole state of Salvador on the south;—traversing Guatemala, the new city and Chimaltenango stand on the top of the ridge, which now becomes more elevated as it approaches Mexico, and branching into various groups, forms, in the western part of the state, that region which is denominated the highlands, and in which are situated the cities of Totonicapan and Quesaltenango. The population on the Pacific side of the chain is much greater in proportion to its extent than on the Atlantic slope.

This range of mountains may almost be said to be interrupted in its course through Central America by two transversal valleys, in one of which is contained the lake of Nicaragua, and in the other the plain of Comayagua; but this interruption is more apparent than real, for to the southward of the lake there certainly exists an elevation which separates its waters from the Pacific; and in the extensive valley of Comayagua, the only one of the union which runs north and south, there is decidedly a central eminence, on each side of which the waters drain off to the respective oceans.

The base of the range is skirted by a fringe of alluvion, though in some spots its branches reach to the sea-shore. Yucatan and the British settlement of Honduras are principally of alluvial formation; while to the southward and eastward the mountains approach the bay of Honduras, and at a considerable elevation bound it as far as the Mosquito shore, when they again recede into the interior. Nearly the whole coast of the Pacific is bordered by an alluvial plain, varying in breadth, and the line where this plain joins the base of the range is crowned by a continual succession of volcanoes, at different distances and of various elevations: many of these volcanoes lift their lofty summits far above the height of the central ridge, and there are even some mountains, like that of Ule, in the southern part of Honduras, of a greater altitude than the mother chain.

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\* Except in Mexico.—Ed.

The elevation of the surface of Central America is the cause of the cool and temperate climate of the greater part of its extent, the tropical heats being only experienced immediately on the sea-coasts and the banks of the navigable rivers; in the rest of the country a perpetual spring and verdure ever exist, and realize the dream of the ancient European poets, who, without experiencing it, imagined a similar climate for their favourite Elysian fields and the island of Calypso.

I need not remark that, according to the greater elevation of a district above the level of the sea, so much cooler is the temperature; and, although the height of the mountains of Central America is much less than that of the Andes and their branches in the southern continent, yet, I repeat, the major part of its surface is greatly elevated above the level of the oceans. But the principal altitudes in the confederation are its volcanoes, which are scattered along our southern shores at various distances from the Pacific, but are not met with in the north or east. The most remarkable volcanoes are Tajumulco, Atitan, Fire, Water, Pacaya, Isalco, San Salvador, San Vicente, San Miguel, Cosigüina, el Viejo, Ometepe, Irasú, Turrialva, Chirripó, Barba, Votos, Erradura, and Miravalles. The water volcano is the loftiest, its summit being 12,620 feet above the level of the Pacific: this has never emitted fire from its crater, but torrents of water and stones. Various other volcanoes of Central America have, at different periods, had many considerable eruptions of fire as those of other countries. That of Cosigüina was described in Vol. V. of the Journal. The volcano of Isalco is at present in the greatest state of activity, but without doing any damage.

These volcanoes are vulgarly supposed to be the great causes of earthquakes; as their vicinity is always peculiarly afflicted with such commotions, yet invariably the neighbourhood of every volcano is thickly peopled. Ometepe is the only inhabited island in the lake of Nicaragua, at the same time that it is the only island of the lake on which is found a volcano.

The ports and navigable rivers of Central America are among its great advantages over Mexico, which throughout the whole extent of its eastern shores does not possess a harbour worthy the name; while the coasts of this country are indented by deep and capacious gulfs, and it contains excellent ports on both seas.

The principal lakes of Central America are Nicaragua, Managua, Golfo Dulce, Golfete, Peten, Atitan, Amatitan, Güija, and Cojutepeque; the five former are situated in the northern slope, the four latter lakes lie in the plane that inclines towards the Pacific.

The Usumasinta, of which a description is to be found in Vol. III. Part I. of the Journal of the Royal Geographical Society, falls into the bay of Campeachy. The Hondo, Belize, Sarstoon,

Polochic, Motagua, Ulua, Lean, Aguan, Black, Plantain, and Patook rivers, discharge their waters into the bay of Honduras; the Wanx,\* San Juan, Matina, Culebra, and Escudo of Veragua, run into the Caribbean; the Boruca, Tempisque, Choluteca, Nacaome, Guascoran, San Miguel, Lempa, Pasa, Esclavos, Michatoya, Guacalate, Gicalapa, Samala, and Tilapa, contribute to the Pacific; many of these rivers are navigable for several miles into the interior, and there are numerous others of less note. The country also abounds in warm and medicinal springs.

The gold mines of Costarrica, and the silver of Honduras, are rapidly increasing in their products.

The great staples of the federation, and its principal articles of export, besides the precious metals, are indigo, cochineal, sarsaparilla, hides of various animals, mahogany, cedar, dye woods, balsam, sugar, and rapadura, or panela: the latter is a species of brown sugar principally used for the distilling of spirits.

The various vegetable productions of Central America in its cold, temperate, and warm climates, prove the advantageous scale of altitudes in this country: its horticultural productions and fruits embrace nearly all those of Europe and the West Indies, besides various others very valuable, entirely peculiar to its own soil. I have forwarded at various times collections of the indigenous seeds to the Horticultural Society of London.

Two species of locusts are remarkable in Central America, the brown and the green: the brown locusts have at various times appeared in immense flocks, covering everything green: as they never fly very high, the country people have a method of destroying them by driving them into pits; the Asacuan, a bird of the size of a pigeon, and whose flight denotes the seasons, also pursues them in large numbers to devour them: the story told that the green locust or chapuli produces the seeds of plants, I have often heard repeated, but cannot give credit to it.

The seas of Central America abound in pearls, tortoise-shell, whales, &c.

The birds of the country are deservedly celebrated for their great variety, and the extraordinary beauty of their plumage; the handsomest and most remarkable is the quesal,† or *Trogon resplendens*,‡ which is rarely found in other parts of America, but abounds in Verapas and Quesaltenango. All the kinds of fowls of the European poultry-yards are reared in Central America, including geese, notwithstanding Humboldt states the contrary.

Cattle, horses, asses, sheep, goats, and hogs, though not indi-

\* Huanx according to the Spanish orthography.—Ed.

† *Quetzalli*, in the Toltec language, implies green feather, and the name of the celebrated Toltec deity, *Quetzal-coatl*, is probably derived from an association of this bird and the serpent *Coatl*.—Ed.

‡ For a description of this beautiful bird, the *Trogon resplendens*, see Gould's 'Monograph.'

genous to the continent, having been introduced by the Spaniards, are now found here in abundance and perfection. I may remark, that although the horses of this country are not a good race, yet the mules are of a very superior breed. The woods and mountains contain some wild animals, but none very fierce or powerful; the most remarkable are tigers and wolves. The zorrillo is a small fox, whose water is extremely offensive; it stupifies, and has been known to cause the death of a dog that had killed it; the same water leaves a blue dye on every beast, and on everything it comes in contact with.

The territory of the confederation in a direct line from the north-west extremity of the state of Guatemala, to the south-east of Costarricca, is 900 geographical miles in length; the breadth varies from 80 to upwards of 300 miles. The extent of its surface may be computed to contain about 200,000 square miles. It lies entirely within the north torrid zone, and extends over 10° of latitude from 8° to 18° north; its population may be estimated as follows:—

Costarricca . . . .	150,000
Nicaragua . . . .	350,000
Honduras . . . .	300,000
Salvador . . . .	350,000
Guatemala . . . .	700,000
Federal District . . . .	50,000

Total of Central America 1,900,000

besides the Mosquito men, and their tributary Indians.

In proportion to its extent, Central America is the most populous nation of the Continent, the United States not excepted. This population is divided into the four grand castes of Indians, Whites, Blacks, and Ladinos, or Mulattoes,—a mixture of the other three; the relative number of these classes may be approximated to as follows:—

	Indians.	Whites.	Ladinos.	Total.
Costarricca . . .	25,000	125,000	..	150,000
Nicaragua . . .	120,000	110,000	120,000	350,000
Honduras . . .	..	60,000	240,000	300,000
Salvador . . .	70,000	70,000	210,000	350,000
Guatemala . . .	450,000	100,000	150,000	700,000
Federal District .	20,000	10,000	20,000	50,000
	685,000	475,000	740,000	1,900,000

The number of blacks in Central America is too inconsiderable to be taken into consideration. It must also be remarked that the ladinos of this country cannot be assimilated to the West Indian mulattoes, as their complexions are much fairer, and

many are little distinguishable from the whites. The Indians of the state of Guatemala preserve to a great degree their aboriginal languages and customs; but, in the other states, they speak the Castilian, and are blended in their manners with the mass of the population. The jealousies among the castes are balanced by the Indians being well attached to the whites and very averse to the ladinos, while the constitution offers equal rights and privileges to all. An extraordinary excess is observable in the births of white and ladina females over those of the males, the former being, in proportion to the latter, as six, or at least as five to four: among the Indians, the births of males and females are about equal.

The cities of the federation are twenty-nine in number; the first is San Salvador, the residence of the general government in the federal district, which is a circle round the city twenty miles in diameter, with a farther extension of ten miles towards the south, to include the roadstead of Libertad on the Pacific.

The cities of Costarrica are San José, Carthage, Esparsa, Alajuela, Eredia, Estrella;—of Nicaragua, Leon, Granada, New Segovia;—of Honduras, Comayagua, Tegusigalpa, Gracias, San Pedro Sula, Olanchito, Sonaguera, Trugillo;—of Salvador, San Vicente, San Miguel, Santa Ana, Sonsonate;—of the state of Guatemala, Guatemala, Old Guatemala, Totonicapan, Quetzaltenango, Chiquimula, Salamá, Coban, Flores.

The principal ports in the bay of Honduras are Isabal, Omoa, and Trugillo; in the Caribbean Sea, San Juan de Nicaragua, Moin, and Bocatoro; and in the Pacific, Calderas, El Realejo, La Union, Libertad, Acajutla, and Istapa.

The cities, towns, and villages have municipalities, whose members are annually elected, and the alcaldes or chief justices preside.

The states are each governed by a chief.

The constitution of Central America provides that the legislative power shall be vested in a federal congress, composed of deputies elected in the proportion of one to every thirty thousand inhabitants, and half the members are re-elected annually. The senate, which here is not considered a house of congress, is a permanent chamber; it has the sanction of the laws, and acts as a council to the President; it consists of two members from each state, and one-third of the senators are re-elected every year. The executive power is lodged in a president elected for the term of four years, as well as the vice-president. The ministers of state, appointed by the President, are three; one for the foreign and home departments, another for finance, and the third for war. The supreme court of justice consists of six members, one-third of whom are re-elected by the people every two years. It must, however, be remarked that no elections in Central America

are made directly by the people, but by the medium of electoral colleges, as in France. Chile is the only republic of late Spanish America that has adopted the English system of direct elections.

Central America, though the fourth nation of the western hemisphere, derives her chief importance from her geographical position and the liberality of her institutions. The monkish orders have been wholly extinguished, and the few nunneries that remain cannot compel their members to stay in them against their will.

The independence of Central America was finally attained on the 1st of July, 1823, and the preceding constitution was adopted. An anti-national party, however, long strove for mastery; and the last Spanish flag that will ever float over the western continent was lowered in Omoa on the 12th of September, 1832. The president, General Francisco Morasan, has been elected to a second term of four years: his fortune, moderation, and sacred respect for the institutions of the country promise a prosperous period; in short, it may be confidently predicted that the internal troubles of Central America have for ever terminated. These have been very ruinous to the advance of Nicaragua and Salvador; but the other three states are rapidly progressing in the career of good government, industry, and wealth: that of Guatemala, from the tranquillity it has for many years enjoyed, and the greater intelligence of its leading men, is most forward in the race of improvement. In this state the Spanish laws have been entirely abolished, and the code of Mr. Livingston, of the United States, substituted in their stead. Education is fostered by every means.

The national coat of arms is a range of five volcanoes on a plain washed by both oceans, with a rainbow above, and the cap of liberty beneath, surrounded by a glory. This is enclosed within a triangle encircled by a label with the inscription—“*Federacion de Centro America.*”

The flag consists of three horizontal stripes, (blue, white, blue,) with the arms in the centre, except in merchant vessels, where the arms are replaced by an inscription, in silver letters,—“*Dios, Union, Libertad!*” With these three words, also, all despatches and official letters are concluded.

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#### COSTARRICA.

The state of Costarrica is one of the five composing the Central American Confederation. It is bounded by Nicaragua on the north, New Granada on the south, the Caribbean Sea on the east, and the Pacific Ocean on the west. Its most eastern point is the left bank of the river Escudo of Veragua; its north-western extremity the little village of La Flor, on the Pacific;

its north-eastern the Colorado mouth of the river San Juan ; and its most southern limit is the right bank of the river Boruca, which falls into the Pacific.

The physical aspect of Costarrica is very uneven, and the face of the country is at various levels above the ocean, which, according to their height, have different temperatures and productions.

There are two principal forests in the state ; that of Aguacate is remarkable for its rich gold mines, which began to be worked about 1821, and having, from their riches, attracted the attention of foreigners and the citizens of the other states, their immigration and settlement here have been of great advantage : these circumstances, with the present freedom of commerce, have completely vindicated Costarrica from the ironical aspersion cast on it before the independence by the Reverend Domingo Juarros, of Old Guatemala, and which at that time was too true. The second forest of note is that of Dota, of great extent, and through which the road passes from San José to the towns of Terrava and Boruca, and from thence into the republic of New Granada, in South America.

The volcanoes of Costarrica are Irasú, or Carthage, Turrialva, and Chirripó, in the Oriental department ; Barba, Votos, Erradura, and Miravalles, in the Occidental.

Near the volcano of Chirripó occurred a remarkable earthquake on the 7th of May, 1822, about half-past one in the morning : there were two shocks, the latter presented some very remarkable phenomena ; it commenced by an undulation from east to west, which was followed by a vertical motion, and then again the undulation as before : many edifices were cracked by it ; the top of the portico of the Carthage church, and the cupola of one of the towers of the church of San José were thrown towards the westward, yet not a single individual was hurt. In the valley of Matina, which is to the east-north-east of San José, were found crevices of various dimensions, and some of them very considerable, from the bottom of which sand and salt water were thrown up.

The volcano of Irasú, or Carthage, is celebrated in the history of Costarrica, on account of the dreadful phenomena of its first eruption, which happened in 1723 : it was accompanied by strong and frequent earthquakes, and a dark fog, which lasted three days, the darkness rendering more apparent and terrific great masses of fire, which at the same time floated over the city of Carthage, and fell at a considerable distance beyond.

In order to make a more perspicuous description of the principal rivers of the state, it is necessary to observe that there is a point called Alto de Ochomogo, near the hill of Quircot, close to Carthage, whence the waters separate, which run through the principal part of the state, and discharge themselves respectively into the Pacific Ocean and the Caribbean Sea ; so that we may

consider Costarrica as divided into two parts, namely, the north-eastern and south-western, it being understood that this point is not only remarkable for the separation of waters, but also by its temperature it announces to the attentive traveller that he is, when on that height, upon the dividing line between the two great sections of territory into which nature has divided the state. The south-western slope is easily accessible, gradually inclining, nearly throughout its whole extent, from the genial temperature which favours vegetation and relieves man in his daily labours, to the insupportable heat and aridity which announces languor and sterility. On the north-eastern side, on the contrary, the aspect is more rugged, and nature appears as if she wished to display her power by placing at every step difficulties, wonders, wrecks, and ruins; everything here is great: the number, complication, and height of the mountains, the large rivers, and even the smaller ones, excite the fear and attract the attention of the traveller, who considers their capacious channels, which they fill in winter, carrying along with them immense rocks by their impetuous current, as also the largest trees broken and scattered here and there, and borne away with masses of earth torn by the waters from their lofty shores. Inaccessible heights, deep abysses, beautiful and delicious plains, everything is found full of fertility and abundance, from the most elevated peak to the shores of the ocean.

The river Salto, or Alvarado, on being joined by other streams, forms the large one of Tempisque, which runs into the bay of Nicoya.

The river Grande, which may be said to form the limit between the pastoral and agricultural districts, as also a barrier to impede the easy access of the traveller to the most populous part of the state; after a tortuous and rapid course, broken by rocks, discharges its waters into the eastern part of the same bay of Nicoya, very near the Erradura.

The river Costarrica (formerly called San Carlos) runs into the river San Juan.

The Sarapiquí forms the principal route from the interior to the Caribbean Sea.

The river Ucus, or Macho, runs under this name for many leagues, then takes that of Reventason, and under the latter falls into the Caribbean Sea, after having collected a great body of water in its course, which pierces one of the two principal chains of our mountains; its current is of furious rapidity, and a great obstacle in the road leading to Matina, threatening ruin and destruction to travellers and their baggage.

The Matina is formed by the rivers Chirripó and Barbilla, which join at the point called Real; from whence commences, and continues down the course of the stream, the territory called

Plano, or Seccion, de Bonilla. It must be observed that the rivers Chirripó and Barbilla are navigable before their confluence to form the Matina, and that the Chirripó is commonly larger and more rapid than the Barbilla, though the latter in the rainy season has more water, and is smooth. The territory which has always been known by the name of the Valley of Matina is not precisely determined; but it may be said that it extends from the Madre de Dios river to near the mouth of the Matina, and is divided into three principal parts, viz., the Plano de Bonilla, Bejuco, and Aspe. The Matina is a tranquil stream, without any rocks throughout its whole extent: its periodical inundations leave a deposit of vegetable mud or alluvion. The only easy access to the sea, or alongside the vessels in the port of Moin, for boats, is by the canal of the Baya. The inundations of the valley of Matina are generally in the months of December and January, but sometimes in November, February, and even in March. The cause of the phenomenon appears to be the advantageous elevation above the level of the sea of the eastern part of Costarrica, which thus enjoys, to a certain degree, the winter of the north temperate zone; so that in this season, which begins to be felt in December in the north-eastern part of Costarrica, cold, more or less, is experienced, so much as several degrees below the freezing point, and winds and rains. Hence the necessary result that the rivers which rise in the mountains are swollen in proportion to the rains, and according to the progress of the winter and seasons in the temperate zone. With respect to the swelling of the rivers it may be remarked that, on the Barbilla joining the Chirripó, the former cannot easily discharge itself into the latter, and consequently it rises and overflows into the natural ravines and low grounds of the valley, whence the partial inundation observed on one side of the Matina. But if this rise be considerable, and last for any time, the Chirripó also is caused to overflow its banks; whence proceeds the general inundation on both sides of the Matina, which commonly lasts twenty-four hours, and sometimes, but not often, thirty-six, or more: it generally happens in the night-time, although the rain which produces it begins in the afternoon. The oldest traditions testify that the inundation happens only once a year, whether whole or partial. The morning of the inundation the atmosphere appears loaded in every direction, and frequent storms of rain pass over the valley; these announce its approach, and warn the inhabitants to prepare for it, and the injuries it may occasion, according to its height; which, in the more elevated parts of the section of Bonilla, never exceeds nine feet, and, in extent, at a day's journey from the middle of the Plain of Bonilla, traces of the inundation have been seen. At the angle of the confluence of the Chirripó and Barbilla there is an elevated spot to which the inundation never rises, being a

central point between the plains of Bonilla, Bejuco, and Aspe, and at the upper extremity of the lands fit for grazing cattle. On this elevated spot it is proposed to found a town, which may preside over the agricultural and pastoral industry of the surrounding country. The inundation leaves usually a deposit of mud three or four inches thick, so that the surface of the valley is much higher now than formerly; and perhaps this is the cause of a phenomenon observed by the people of Matina with pleasure, the oldest of whom say that for many years the inundations are not so great as their ancestors used to speak of; and all are unanimous in stating that they become less every year. They are of immense benefit to vegetation, causing its greatest luxuriance and splendour; and they also destroy the moles, an animal so prejudicial to all plantations, but especially to those of cacao: it is further said that no unhealthiness arises from the inundations. The small plaintain has become in the cacao estates the best and most advantageous substitute for the black wood, since the latter, besides occupying too much space, often causes injury by falling and crushing a great many cacao-trees.

The Baya is a canal, which commences at the port of Moin, or Salt Creek, and, running parallel to the sea, is crossed by the rivers Matina, Pacuare, Reventason, and Cacao, which latter stream falls into the Tortuguero; the Baya continues parallel to the coast as far as Pearl Kay Lagoon, a distance of 180 miles from Moin, being, however, stopped up in a few places. Some believe that this canal is a work of nature, and others that it was cut by the aborigines for the purpose of opening a commodious passage and inland communication, avoiding the many dangers of the surf and the bars at the mouths of the rivers. Boats and canoes can come by the Baya from Moin to the river Matina, near its mouth; and up the stream of this river, through the whole section of Bonilla, to the Real; and from thence up either the Chirripó or Barbilla, since they are both navigable; so that the valuable wood on the banks of these rivers can go to Moin in rafts. The Baya is from twenty to twenty-five yards wide, and both it and the river Matina are susceptible of being navigated by steam-boats.

The Chrico Mola, or Chrickam Aula, falls into the bay of Chiriqui; it is navigable about twenty-five miles from the sea; the climate of its banks is delightful, and the surrounding country contains inexhaustible provisions in a wild state, such as plantains, peccaries, &c.

The river Escudo de Veragua, which divides Central from South America, runs into the Caribbean, opposite the island of the same name.

The Banana, Tiribee, and Culebra rivers, also fall into the Caribbean, between Bocatoro and Salt Creek.

The state of Costarrica is divided into two departments, each comprehending five partidos, or districts, Carthage being the chief city of the Oriental department, and Alajuela of the Occidental viz.:—

*Oriental Department.*

Districts.	Cities.	Towns.
Carthage . .	Carthage . .	{ Union. Cot. Quircot. Tobosi.
San José . .	San José . .	{ Curridavat. Aserri. Paraiso (c).
Paraiso . . .	. .	{ Orosi. Tucurrique.
Terrava . . .	. .	{ Terrava. Boruca.
Morasan . .	Estrella . . .	{ Bocatoro.

*Occidental Department.*

Districts.	Cities.	Towns.
Alajuela . . .	Alajuela . . .	. . .
Eredia . . .	Eredia . . .	Barba (c).
Escasu . . .	. .	{ Escasu (c). Pacaca.
Cañas . . .	Esparsa . . .	{ Cañas (c). Bagases (c). Guanacaste (c).
Santacruz . .	. .	{ Santacruz. Nicoya.

Those marked (c) are corporate towns. The city of San José is the capital of the commonwealth.

The sea-ports of Costarrica are San Juan del Norte, (commonly called of Nicaragua,) Moin, and Bocatoro, in the Caribbean; Mantas, Calderas, and Culebra, on the Pacific Ocean.

The lakes of Costarrica are Socorro, at the head of the brook of Reventado, which supplies the city of Carthage with water; the twin lakes at the place called Laguna, on the road from San José to the Matina; Ermoso, near the road from Barba to the Sarapiquí; and Surtidor, at the source of the latter river.

The principal productions of Costarrica are cattle, hogs, goats, and sheep. In the forests the tapir, the mountain cow, the wild goat, the wild striped boar, the zahino, and other wild quadrupeds. The sugar, wild and white, cane, and that of the class

called birota, which, spread out, forms strong planks more than half a yard wide, and five or six long. Coffee, (which, being properly plucked and dried, is similar to that of Mocha,) three sorts of cacao, or chocolate, indigo, vanilla, three sorts of maize, seven kinds of French beans, peas, beans, rice, wheat, musk, and water-melons. In a word, innumerable medicinal plants, and all the cereal, so that botany would find amongst us a vast field in which to range with unspeakable advantage to humanity and society in general. Three sorts of plantains, three of cotton, tobacco of many kinds; timber for mills and other works which require hard woods, such as guapinol, the *lignum-vitæ*, the wild medlar-tree, and the oak. For houses and joiners' work, mahogany of the best quality; the casique, the cocoa-nut-tree, the ronron, and the cristobal; the beech-tree, three sorts of cedar, the caragra, (which, from very recent observation, is considered the best substitute for cedar,) the chestnut, the espavey, (also called the espavel, or agüegüe,) and the laurel. For house props, as not rotting in the earth, the chirraca, the tubus, the baynilla, the guachipelin, a very strong wood, the quiebrahacha, the black wood, the comenegro, which is the same as the iron tree, so celebrated in the East Indies and other countries. Lastly, dye-woods, such as are called Brazil and Nicaragua, found on the coasts of the Pacific and Caribbean; the San Juan, of a beautiful yellow; Poro, from which is extracted a very bright yellow cane colour; and, above all, the wild *Annona reticulata*, which has the particular property of its wood being perfectly white, but, when cut or split, in a few minutes turns to a clear and brilliant red colour, which can be extracted, and which is quite durable; balsam cayuna, or canune, copaiva, and tolu and cativo. The gums copey, resin, copal, arabic, quitirri, guapinol, (an excellent perfume,) incense, chirraca, and that of the chestnut-tree, whose fruit contains much oil, and of which candles are made very like yellow wax, burning with a good, clear, and steady light, without giving out much carbon; this seed and substance, being worked and purified, make candles as fine as those of white wax.

The most remarkable fish is the bobo, which is only found in the rivers running into the Caribbean, and especially in the eastern part of Costarrica: it is very lively, and will not bite at any bait on a hook, on which account it can only be caught in a net, or shot with arrows, which is done by the aborigines with great skill. Its flesh is delicate, and it has no other bone but that in the back.

The otter and the manati are found, and almost all the rivers are abundant in many species of fish.

The three kingdoms, animal, vegetable, and mineral, have been little explored in Costarrica, and particularly the latter, since we have only just discovered that we possess zinc, nickel,

antimony, with gold, silver, copper, iron, and lead, although up to the present time there is not a single mine of the two latter metals worked. With respect to gold and silver we have the mines of Aguacate, which have produced great riches since their discovery; these metals have also been found in all the mountains that have yet been examined, and, above all, in that of Tisingal, near the ruins of the old city of Estrella, situated in one of the excellent harbours of the archipelago of Chiriqui. The immense riches of this mine, and the circumstance of its being situated on the coast of the Caribbean, was the cause of this country being named Costarrica, or the Rich Coast.

The climate of Costarrica is as varied as its aspect; in the principal inhabited places it may be asserted that the climate is the finest in the known world, no extreme of heat or cold. Fahrenheit's thermometer varies between 50° and 76°; but, including all places reduced by agriculture or pasturage, the thermometer ranges through every degree, from freezing point to 100°, in proportion to the elevation above the level of the sea. This day, the 13th of April, 1834, Fahrenheit's thermometer is at 96° in Calderas, and there are many places at a short distance from Carthage, and in other parts, where the cold is so intense that it frequently happens that running waters are found frozen in the morning, and the inhabitants, principally those who reside in Carthage, San José, and Eredia, enjoy the luxury of ice; so that the territory of Costarrica can produce all the fruits and productions of every climate in the world.

The Indian tribes within the territory of Costarrica, distinguished by the name of *Parcialidades*, are the Valientes, or most eastern people of the state; the Tiribeas, who occupy the coast from Bocatoro to the Banana; the Talamancas and Blancos, who inhabit the interior, but frequent the coast between the Banana and Salt Creek; the Montañños and Cabecares, who are settled in the neighbourhood of the high lands bounding Veragua, and the Guatusos, inhabiting the mountains and forests between Esparsa and Bagases, and towards the north of these places.

The Blancos are in constant communication with the farmers of Matina: they are of mild manners, well-formed men, and whiter than the general copper-colour of American aborigines, and hence their name. Such is their honesty, that they are left by themselves in the farm-houses with a perfect security that they will steal nothing. The former hatred of all these tribes to the Spaniards and their descendants is now rapidly decreasing, through the liberal policy of the actual rulers of Costarrica and Central America in general.

The whole population of Costarrica amounts to 150,000, which is rapidly on the increase.

According to the eleventh article of the Federal Constitution,

complete toleration is the law of the state; the inhabitants are chiefly Roman Catholics; the Protestant faith prevails in the district of Morasan, and paganism among the aboriginal *Parcialidades*.

The government is divided into the legislative, executive, and judicial powers. The legislative consists in an assembly composed of twelve deputies, elected biennially, and with whom all laws are originated; and a council composed of three individuals, elected every four years, who have the right to sanction or reject all Bills. The executive power is intrusted to a single individual, with the title of Supreme Chief.

The fourth constitutional period is now about to expire, and the people of Costarrica have the glorious and enviable satisfaction of having annually exercised their sovereignty in electing their representatives and magistrates by their own free will. The pacific and industrious inhabitants of the state have, under the favour of Providence, profited by propitious events; and while the other states of this confederacy, and even the greater part of the new nations of America, have been devastated by wars and commotions, Costarrica has happily been preserved from them, and has gradually advanced in improvement.

The neighbourhood of Costarrica, at the mouth of the river Bethlehem, was the first part of the continent of America on which Europeans were settled by the immortal Columbus, in his fourth voyage in 1502; and though his intentions were subsequently frustrated by the hostilities of the aborigines, Costarrica was eventually the first permanent establishment of the Spaniards in Central America.

Under the captains-general, who first ruled this country, was founded, and afterwards destroyed, the famous city of Estrella; as also the large towns of Atirro, Chirripó, and Garavito.

Under the governors, who succeeded, happened the removal and re-establishment of the city of Carthage; the sack and destruction of the city of Esparsa, its population being removed to the port of Calderas; the intrigues of the directors of Boruca and Terrava; the ruin and desertion of Matina; and the removal of the tobacco plantations from New Segovia, in Nicaragua, to this state, from the cultivation of which we derive so much advantage and profit.

On the 27th October, 1821, Costarrica declared herself independent, and existed for a short time as a province of the Mexican empire; but on the formation of the Central American Confederacy, in the latter part of 1823, this state became an integral part of it, and on the 21st of January, 1825, adopted its present constitution.



